

Scott EVANS – Lewis and Clark Fund for Exploration and Field Research in Astrobiology awarded June, 2014

Paleoecology of the Iconic Ediacaran Genera *Dickinsonia*

Project Report

Due in large part to the generosity of the Lewis and Clark fund for exploration and field research in astrobiology, I had a very successful field season in Nilpena, South Australia. I spent 4 weeks researching *Dickinsonia*, the iconic member of the Ediacara biota, focusing on functional morphology and paleoecology. The Nilpena site consists of excavated beds that contain *in situ* fossil communities, allowing detailed paleoecological investigations on single populations of Ediacaran organisms. My research this year focused on comparing these different populations of *Dickinsonia* to learn more about their varying distributions and what this may mean about their growth, reproduction, and environmental setting. I was also able to expand the number of overall *Dickinsonia* I have observed to well over a thousand total specimens. This inspection of large numbers of *Dickinsonia* will aid in interpreting the numerous morphological and taphonomic variations within this genus. This research will ultimately be used to investigate the movement, speciation, and growth of *Dickinsonia*. Photographs were taken to enhance a paper previously submitted to Palaeogeography, Palaeoclimatology, Palaeoecology. Information on body size distributions will be presented at the Geological Society of America annual meeting in Vancouver in October, and will be part of a subsequent manuscript. This research will also be part of a Master's Thesis at UC Riverside and multiple future manuscripts.



Figure 1. Two specimens of *Dickinsonia costata* from Nilpena, South Australia.



Figure 2. One of the fossil beds from the Nilpena site located West of the Flinders Ranges.